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Via E-Mail, Fax and US Mail

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RE: Comments on the Hawai'i Renewable Energy Program (HIREP) Programmatic Environmental Impact Statement (PEIS)

Dear Mr. Kam:

We appreciate this opportunity to comment on the Hawai'i Interisland Renewable Energy Program (HIREP) Programmatic EIS (PEIS) process. The following comments are provided by Pattern Renewables Development Company LLC and Bio-Logical Capital, LLC, companies that are actively involved in energy issues and that are interested in the U.S. Department of Energy (DOE) and the State of Hawai'i's commitment to developing renewable energy resources. We feel that this PEIS is a strong first step toward developing renewable energy sources in Hawai'i.

Comments on the HIREP Programmatic EIS

- 1) A cost-benefit analysis of wind energy development in Hawai'i should be performed. This effort will require a regional analysis of the comparative economic and environmental costs of wind energy development compared with other forms of electricity generation and conservation measures. Such an analysis will also require data on the impact of wind development on fossil fuel consumption, land and water resources, emissions from conventional power plants, and the impact on greenhouse gases.
- 2) Though site-specific impact analyses are beyond the scope of the PEIS, the PEIS should identify the types of potential impacts that ecological resources may incur from a wind energy and inter-island transmission cable development, on the basis of impacts that have been reported at existing facilities and other similar projects.
- 3) Program proposed policies and BMPs, site-specific analyses, including the identification of potential impacts will be conducted for any proposed renewable energy and cable project in Hawai'i. Please confirm that the scope and approach for site-specific analyses will be determined on a project-by-project basis in conjunction with input from other federal, state, and local agencies, and interested stakeholders.
- 4) The proposed HIREP PEIS should identify key requirements for monitoring programs at all wind energy development sites. A significant portion of new data is likely to be acquired through site-specific monitoring programs that will evaluate environmental conditions at a site through all phases of development.

5) As part of the PEIS, a basic framework and key standards for site-specific monitoring programs, mitigation requirements and the implementation of BMPs should be established. Central to this need is the requirement that monitoring programs and identified mitigation measures be incorporated into standard operating procedures and project-specific BMPs.

6) Exclusion of specific areas from wind energy development should be determined at the project level as part of the site-specific analyses, rather than at the PEIS level. The scope and approach for site-specific analyses should be determined on a project-by-project basis in conjunction with input from other federal, state, and local agencies, and interested stakeholders, including environmental organizations and groups interested in the preservation of specific areas.

7) In some circumstances, a programmatic EIS could provide that the level of environmental assessment that will be required for individual projects (such as specific wind power facilities) would be determined at the Field Office level, would be limited to an environmental assessment (EA) and would tier off of the Programmatic EIS for potential environmental impacts. In the present circumstances, however, while tiering would be beneficial, subsequent determinations at the Field Office level based on an EA alone would be inconsistent with NEPA's requirement for DOE to consider the direct and indirect impacts of a project (see 40 C.F.R. §1508.8). Tiering to this Programmatic EIS for issues and concerns associated with specific wind energy development proposals is appropriate to the extent that the analysis of impacts in the PEIS is sufficiently site-specific and detailed. A broad, regional programmatic impact statement cannot substitute for the detailed analysis of direct, indirect, and cumulative impacts required under NEPA, but the PEIS should be sufficiently specific to allow tiering on a project-specific basis.

8) The assessment of environmental impacts in the PEIS should be sufficiently specific to facilitate comprehensive public understanding of the HIREP, and not left too general in nature due to the regional scope of the analysis. However, the study area included in the PEIS is widely diverse in terms of topography, sensitive wildlife and plant species, and amount of existing development. All potential sites will be characterized by unique resources, uses, impacts and public concerns. As a result, the impacts analysis in the Programmatic EIS will likely be insufficient in some respects to satisfy NEPA's directive to consider the impacts of a particular proposal. While the PEIS should be as specific and detailed as reasonably possible, a subsequent site-specific analysis of the impacts resulting from a particular wind development or inter-island cable proposal should be conducted pursuant to NEPA.

9) New road construction is also a concern with respect to new wind energy and cable projects, including both wind farms and associated converter stations, substations and transmission capacity. New road construction and major improvements (such as paving and widening two-track dirt routes) should be discussed in-depth. Best management practices on everything from road location to grading and maintenance should be outlined in the PEIS.

10) The PEIS should provide for the thorough consideration of marine biology, wildlife and wildlife habitat, with special attention to any threatened, endangered or other special-status species and essential wildlife migration corridors. The PEIS should also provide description of adequate buffers for certain habitat.

- 11) The PEIS should ensure the thorough consideration of plants and plant habitat where wind energy development projects are to be considered, with special attention to any threatened, endangered or other special status species as required by law.
- 12) The PEIS should provide for the thorough evaluation of impacts to all relevant avian species, including important flyways and species concentration areas. The PEIS should ensure that project siting and design consider potential avian mortality. The PEIS should also ensure through adoption of a BMP that the siting and design of turbines, supports, and associated power lines avoid creating perching opportunities for birds.
- 13) The PEIS should provide for the consideration of the visual environment, including scenic viewsheds, and establish standards to guide siting with respect to viewsheds.
- 14) The PEIS should ensure that consideration of wind energy development projects complies with any applicable provisions of the National Historic Preservation Act (NHPA), including its requirements that all individuals and organizations within its scope that may have an interest in the area are consulted and a cultural resources management plan is developed where necessary.
- 15) The PEIS should provide that agencies will evaluate and consider wind energy projects with an eye toward maximizing power production from the resource and minimizing the environmental impacts of its development. In doing so, the PEIS should evaluate the role of wind power generally in achieving a greater measure of energy self-sufficiency in Hawai'i and in reducing reliance on imported fuels.
- 16) The PEIS should provide that once built, wind energy development projects will be monitored in order to assure conformance with required mitigation as well as to improve the siting and design of future projects.
- 17) The PEIS should include a comparative analysis of the costs and impacts associated with wind versus the region's continued reliance on fossil fuel. The PEIS should include and thoroughly discuss comparative data on wind energy's tradeoffs, including its offset of fossil fuel consumption, the land and water impacts of fossil fuel development, the emissions from conventional power plants, and greenhouse gases associated with fossil fuels. Accordingly, the PEIS should thoroughly discuss and evaluate the energy requirements and conservation potential, and the natural or depletable resource requirements, of each alternative discussed, as required by the Council on Environmental Quality regulations implementing NEPA (see 40 C.F.R. §1502.16(e), (f)).
- 18) The analysis of alternatives to the proposed project in the PEIS should be robust, consistent with NEPA's requirement that agencies consider all proper approaches to a particular project which would alter the environmental impact and the cost-benefit analysis. The Notice of Intent states, in part: "Of the alternative renewable energy sources available in Hawai'i - including wind, geothermal, solar, biomass, ocean thermal energy conversion, and wave - wind power has been identified as the most commercially available and economically viable option at the present time." While we concur in this conclusion, the PEIS should consider non-wind alternative energy and conservation efforts in its alternatives analysis.

19) An inter-island transmission cable bundle would ultimately be installed using a very narrow path on the ocean floor (a matter of a few meters), but the need for adjustments along the route for various reasons (such as an obstruction on the seabed) as well as the potential need to lay two sets of cables if the HECO biggest single contingency is indeed 200 MW, would require flexibility and potentially a wider corridor during installation. This suggests the propriety of reviewing potential environmental impacts within a broader corridor than will ultimately be used for cables as built. An environmental study corridor of at least 500 meters per cable bundle to be installed should be sufficient. If adequate information is not available to define corridors at the PEIS stage, then the PEIS should at least introduce the concept for use in the subsequent project-specific document.

20) For the benefit of agencies and members of the public, the PEIS should analyze basic feasibility issues of utilizing an undersea HVDC cable(s) so that decision-makers and the public can readily understand the degree to which the technology meets the needs of the applications under consideration. In so doing, the PEIS should build upon previous studies on these issues (such as those undertaken by the University of Hawaii and the recent NREL study referenced in the Notice of Intent). The PEIS should address such issues as the lengths of cable required (and that such length is practical here based on numerous other installations); undersea current strength; depth of installation; techniques for crossing existing utility lines; and the minimal likelihood of damage to the cable in operation (and the availability of spare cable and repair contingency plans to minimize any out-of-service time). Presumably the joint lead agencies already intend for the PEIS to discuss other potential impacts, such as cable-related electromagnetic fields (negligible, if any); and construction-related impacts (the time required for initial installation would be minimal, with little or no impact on marine transportation, commercial fishing or recreational activities). These and other potential impacts have been the subject of previous environmental studies. (See, for example, the “Draft and Final Environmental Impact Report for the Proposed Trans Bay Cable Project” (2006) (California State Clearinghouse Number 2004082096), Prepared by URS Corporation for the City of Pittsburg, California (online versions: <http://www.ci.pittsburg.ca.us/pittsburg/pdf/tbc/index.html>; and http://www.ci.pittsburg.ca.us/pittsburg/pdf/tbc_feir/urs%20tbc%20feir/index.html).

21) The PEIS should also include discussion of the converter stations employed in HVDC technology and the substation configuration(s) that would be required for the project. The PEIS should address to the degree of specificity possible the kind of facilities that would accompany an inter-island cable(s) for conversion from AC to DC and DC to AC. For example, the PEIS should discuss the amount of acreage typically required for a converter station site (i.e., footprint); visual impacts (height of facilities); noise (likely minimal, with mitigation as needed based on the presence of sensitive receptors); and air quality (though minimal, if any, impact). The PEIS should also note the need for AC transmission lines (either above- or underground) to connect a converter station to a proximate AC substation.

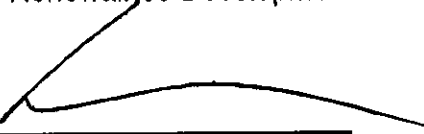
We hope these comments on the scope of the proposed PEIS are helpful, and appreciate the opportunity to comment. Please feel free to contact us if you should have any questions or would like additional information.

[Signature block follows.]




Yours sincerely,

Pattern Renewables Development Company LLC

By: 
David Parquet, Vice President

Bio-Logical Capital LLC

By: 
Grant McCargo, Chief Executive Officer